

on children, in whom there exists no object for such artificial stimulation. Indirectly, they are mischievous by taking the place of food that contains all the elements and constituents of the fluids and solids of the organs and their products. They should be abolished from the dietary of children in all well-regulated families, and by parents careful of their children's welfare.

The analysis of tea is not complete, like that of coffee, by M. Payen. As far as known, it contains no alimentary elements, and cannot be classed with food. It is a purely cerebral excitant.

Though the grain of coffee has amongst its constituents alimentary elements, yet in the common slovenly process of torrefaction, the calorific principles are destroyed; and the plastic are also more or less decomposed. But when more carefully performed, and these principles are not materially injured, still a small portion only can be dissolved in the infusion or decoction made in the ordinary mode.

The infusions of tea and coffee cannot, therefore, be used as food, and be made substitutes for nutritious aliment, without a serious detriment to the economy. They are cordial beverages, and as such are grateful and useful, especially to those engaged in mental pursuits, and who lead sedentary lives. They must, at the same time, be combined with substantial nutriment, or the blood becomes impoverished, and fails to contain the materials for organic structure, evolution of nerve-force.

In proportion to the degree of physical exertions, are the wear and tear of the solids, and the expenditure of the forces. The elements to maintain these in their normal conditions, must exist in the blood, and the blood obtains them from the aliment in which they exist, through the digestive apparatus. Tea and coffee largely drunk at their meals by those engaged in active and laborious pursuits, by excluding a due quantity of substantial food, rich in the plastic and force-producing elements, are more injurious to these classes than to the sedentary.

The inevitable consequences of this practice must be to undermine the constitution, to impair the health, to break down the forces, to cause various nervous sufferings, and finally to produce disability for labour.

ART. X.—*Surgical Cases*. By JAMES D. TRASK, M.D., Whiteplains, Westchester County, New York.

CASE I.—*Erectile Tumour, Ligature of the Primitive Carotid*.—In the spring of 1847, while visiting a patient, my attention was accidentally arrested by a young woman, whose countenance presented a shocking deformity. On examination, an erectile tumour was ascertained to occupy nearly the whole of one side of the face. Her friends stated, that at birth there was a coloured spot just above the angle of the mouth, and another just below and outside

the external angle of the eye of the same side, neither being larger than a small pea. These soon commenced to encroach upon the healthy portions of the cheek, until the disease, in a great measure, supplanted the original tissue.

She was about thirty years of age. The disease had not advanced for several years, and her condition was as follows. The entire right side of the face, below the eye, was enlarged; the surface of a dingy yellow, with bluish spots (her complexion being sallow), bosselated, with here and there a prominence of a deeper blue from a greater supply of blood-vessels. At two or three spots there appeared to be no other covering to the blood-vessels than smooth shining cuticle. The most curious feature, was the upper lip, the right half of which was so immensely enlarged, as to hang down and completely conceal the mouth and chin, when viewed from that side, and to project in front of the lower lip. The disease extended *just up to the mesial line* of the lip, and there suddenly stopped. The right half thus enlarged measured three and three-fourth inches in length, and two inches in thickness; it hung down like an apron over the mouth, and required to be raised with one hand, while food was introduced into the mouth by the other. The mucous membrane was beautifully mottled by the natural pink and the blue of the adventitious vessels. The whole substance of the cheek was implicated, from the cuticle to the mucous membrane lining it. The disease invaded the lower eyelid and the conjunctiva of the eye, and was bounded by the margin of the hair at the temple, by the external ear, the ramus and lower margin of the jaw and the nose, of which the right ala was dragged down out of its place. Pressure upon any portion diminished the tumour in a certain degree, but the lip could be completely emptied, after the manner of a sponge, and was then reduced to a shrivelled mass of loose tissues, ready to fill up immediately upon the relief of pressure. This she could effect by a suction of the lip against the teeth aided by the hand.

No pulsation could be detected in any part of the tumour, except that of the coronary artery, which was rather larger than in the opposite side; neither could any enlarged vessels be found at the margin running into its substance. Nor was there any whizzing or vibratory feel communicated to the finger. The size of the tumour was always increased under excitement, either mental or physical, and especially at each menstrual period. Whenever this happened there was an increase of severe pain in the cheek, apparently neuralgic, from which she was rarely free. Long-continued pressure of the tumour had nearly destroyed the natural curve of both jaws on the right side, so that, from the mesial line backward, both were flattened in their whole extent. The disease extended to the base of the alveolar ridge, but she had had two teeth extracted without any alarming hemorrhage. On two occasions there had been free hemorrhage from the cheek, which was arrested with considerable difficulty; in one caused by a prick of a needle. No attempt had ever been made to arrest the progress, or to remove this disease, and she anxiously inquired if anything could be done.

So great was the extent of the disease, that no mode of treatment gave any hope of success, while the supply of blood still continued uninterrupted. She was told that the operation of ligating the main vessel, leading to the tumour had been done, and sometimes with success; but that hers was not a favourable case, inasmuch as it appeared to be chiefly venous in its structure, and also that the operation was attended with considerable danger to life. At her earnest request I performed the operation of ligating the primitive carotid of the right side, on the 8th of April, in the presence of Dr. A. C. Post, of New York, and of several other professional friends. The sheath was opened, and the

ligature placed in the artery, without exposing the vein or the descendens noni. Immediately upon tightening the ligature a strong pulsation was felt on pressing the distal portion of the artery toward the spine. When lifted up from the surrounding parts it ceased, and was due to a large artery, running directly in the course of the carotid and behind it. In the evening she was excited and restless, and complained of violent throbbing at the point where the ligature was applied, and of pain about the top of the head. There was a good deal of nervous excitement, and she was light-headed; saw horses, &c.; pulse 84, soft and natural. Ordered pills of hyoscyamus and assafetida.

April 9th. Passed a comfortable night; had considerable thirst, and pulse rose to 105 in the evening.

10th. Was rather restless and somewhat delirious, expression of countenance, ill tempered; complained a good deal of difficulty of swallowing. Her courses, which had appeared on the 5th and disappeared before the operation, reappeared; tumour became larger than usual.

12th. My friend Dr. Brown detected retrograde pulsations in the right temporal artery; still suffered from menorrhagia, for which she had been taking acet. plumbi and opium.

14th. For two or three days memory had been impaired; forgot when the operation was done, and when her friends called to see her; had some pain about the temples; tumour painful to the touch, and colder than the rest of the face; but not more sensitive or cold, than often before the operation.

17th. Still sees bugs, &c., when she looks steadily. Pulsation felt to within an inch of the ligature.

The wound was not entirely healed for a month, at the expiration of which time, all evidence of cerebral disturbance disappeared, and memory was restored. The ligature came away on the sixteenth day; no part of the wound healed by the first intention.

At times she fancied the tumour diminished in size, but it soon became evident that no permanent change had taken place. Her health was so delicate as to forbid any farther proceedings at that time.

June 4th. With the assistance of my friends Drs. Brown and Ayres, I passed thirty needles, heated to a red heat, through the substance of the left half of the diseased portion of the lip; thrusting them in various directions, so as to excite inflammation in the whole of that part. Considerable hemorrhage followed one or two of the punctures, which required nit. arg. to suppress it. A lead plate was then applied, which had been previously prepared, by cutting it from a piece of sheet lead, of such a shape, that, when turned over upon itself, it could be exactly applied to the upper and under sides of the lip, so that, when squeezed between the thumb and finger, it compressed the lip thus embraced. It was covered with cotton flannel, on both sides, and suspended by strings attached at either end, tied over the top of the head. Scarce any inconvenience was experienced from the lip, and no febrile excitement.

6th. The lip being rather painful, the lead was taken off, and the lip immediately filled up, and recovered its original size; the sloughs were separating from the needle-holes. The lead was reapplied; she had nervous chills afterward.

7th. The lead plate was replaced by one of thin tinned iron, which was lighter; the lip filled up as before; it felt harder, and could not be compressed to the same degree as before.

9th. Had considerable pain in the lip, and headache; was thirsty; the pulse fuller; courses had come on the preceding night; was very nervous; but little pain in the lip; had had no alv. deject. for two days; all the disturbance ceased

after the operation of a laxative. The tin clamp was removed, as the wounds were nearly healed. Some indurated spots could be felt for some time afterward, which were subsequently absorbed, and the lip remained as it was before the ligature of the artery. My removal from Brooklyn prevented any farther attempts to relieve her.

The above was a case of creticle tumour of unusual extent, and involved important parts. In structure it was evidently chiefly venous. There was an absence of pulsation and vibratory thrill, both in the substance of the tumour and at its circumference, which is perceived when the arterial vessels form a prominent part of the diseased structure. The coronary artery was enlarged, but its pulsations were communicated to none of its subdivisious, neither could any enlarged veins be traced from it.

The cure of the disease was desirable, not only from the deformity, which unfitted her for society, and its extreme inconvenience, but from the risk of severe hemorrhage from accidental injuries, as well as ulceration of the surface lying in contact with the teeth. In considering the possibility of affording relief, three prominent plans suggested themselves; first, removal of the diseased mass by excision or ligature, second, the induction of adhesive inflammation, by setons, needles, &c., and third, ligating the principal vessels leading to the parts. The first appeared to be out of the question, from the impossibility of removing a large portion of the disease without destroying the side of the face; and though the enlarged lip could have been removed, dangerous constitutional irritation was apprehended from the ligature, and uncontrollable hemorrhage from the knife. The fact of the size of the tumour being affected very materially by the state of the circulation, was the principal reason for rejecting the second, and resorting to the third mode. And yet the experience of others afforded but little encouragement for the trial of the ligature of the principal arterial trunk. Ligature of the carotid failing to effect anything, it was resolved to make trial of heated needles, and thirty were introduced.

It had occurred to me, that if by any means compression could be made, upon the part operated upon, sufficient to keep out of it the adventitious blood contained in the cells, and which is to be regarded as accidental, and at the same time allow the entrance of a sufficient quantity to support the vitality of the parts, something important would be gained. The blood contained in the cells coagulates on the introduction of the heated needles, and then becomes a foreign body, which must subsequently be removed by absorption; its presence sometimes producing excessive inflammation, ending in sloughing, with no little risk to the patient. But if the cells should be first emptied of blood, on the effusion of lymph, their parietes would become agglutinated; and, the pressure being removed, the tumour remain shrivelled, the cellular structure having been destroyed; there still being a sufficient supply of blood to subserve the purposes of nutrition. If I am not mistaken, this combination of compression and the use of the needles, may be rendered available in the treatment of many cases of this disease. In the one above related, the needles failed to

kindle the desired amount of inflammation, but, so far as it goes, that trial would encourage a similar resort to the co-employment of compression.

Of course, various contrivances will be required, according to the situation of the tumour. The one adopted in our case was suggested by my friend Dr. W. K. Brown, of Brooklyn, and was completely adapted to it, and most perfectly simple. In other situations I should be disposed to try an application of compressed sponge, as recommended by Dr. J. K. Batchelder, of New York. A piece adapted to the figure of the part is closely bound on by adhesive strap or bandage, and afterward moistened, the enlargement of the sponge producing an equable pressure.

CASE II.—*Strangulated Inguinal Hernia—Operation; the patient being under the influence of Chloroform.*—July 8th, 1848, at 11 A. M., was called to P. M. and found him lying on his side, with the knees drawn up, complaining of great distress in the abdomen. His story was, that some two hours before, while running fast in the field, in pursuit of a bull, he fell over a little hillock with great violence, and struck his abdomen, at the same time bruising his right testis; that he fainted and vomited, crawled on his hands and knees to the house, a distance of several rods, and dropped on the floor.

There was great tenderness of the whole abdomen, especially in the right iliac and the hypochondriac regions. There was no complaint when the testis was handled, and there was no tumour in the scrotum. There was frequent vomiting, the surface of the body cold, and he was scarce able to whisper. Having apparently suffered severe concussion or other injury of the abdominal viscera, hot fomentations to the belly, heat to the extremities, and hot drinks, were ordered. By 6 P. M. there was considerable reaction, and the pulse about 90 and full, great distress in the abdomen on attempting to move, and great tenderness. Venesection was practiced, to approaching syncope, say $\frac{3}{4}$ x; gave calomel gr. x, and opium gr. ij.

9th. 8 A. M. Felt better for the bleeding; tenderness and vomiting had continued. He now called my attention to a hernia in the right side of the scrotum, of the size of a hen's egg, which he had observed for the first time during the night. He stated, however, that he had had a hernia for fifteen years, which came down but occasionally, only after unusual exertion, and had always been easy of reduction; and that it had not been down for several weeks before. Taxis was employed for over half an hour, and he was then bled to syncope; after which the bowel was easily returned on renewal of the taxis. The tumour was not tender, but there was exquisite sensitiveness about the internal ring. A firm, hard substance, of the size of the little finger, could be traced from the external ring, for an inch and a half, down into the scrotum, where it expanded and appeared to be in close contact with the testis, and was presumed to be a diseased spermatic cord. Pulse soft, and about 100. Ordered a purgative enema, having given a grain of opium.

7 P. M. Bowels moved slightly after the enema; vomited after drinking. Felt better after the reduction, but the hernia had come down, of about half its former size. Tried taxis for fifteen minutes without success; pulse very compressible; urgent thirst; great restlessness. Ordered cal. gr. ij, morph. $\frac{1}{4}$ gr. every three hours, to combat peritonitis, continued hot fomentations, ice *ad libitum*.

9th. 10 A. M. Slept some; was free from the anxious distress of the preceding day, and spoke louder; still vomited everything; tried taxis for a half

hour; no tenderness of tumour; bled him to syucope; pulse 76, rather hard; before bleeding, was softer; taxis tried again, but no impression on the hernial tumour, which had resumed its original size, and was so tense as to be perfectly unyielding to pressure between the thumb and fingers, but not tender. Spoke to him of the operation. 4 P. M. Bilious vomiting; tumour somewhat tender on pressure, which caused acute pain about the umbilicus. Ordered pounded ice to the tumour. 10 P. M. He had got up and walked into another room, and felt better. Ice applied for four hours, but produced great pain in the abdomen; pulse 76, soft and perfectly compressible; was so much under the influence of morphine as to be constantly disposed to sleep.

10th. 7 A. M. Had an uncomfortable night; ice was reapplied, but caused sharp pain in the bowels, relieved only by hot fomentations; had just had a spontaneous evacuation of the bowels, and felt easier; pulse 76, not quite so soft. 12 M. Had had another evacuation, described as watery, with some blood; anxiety, tenderness, and distress increased. 3 P. M. Had had another dejection, and spoke up brighter, said he felt better; pulse 76, of natural force; tongue had a pretty thick covering of fur; vomiting at intervals, unaffected by opiates in any form. Calomel and opium had been continued, to combat the peritonitis which unquestionably existed, and the operation deferred from a great uncertainty felt as to whether there was actual strangulation, or mere perituitis with inflammation of the neck of the sac. Was prevented from seeing him until 9 P. M. He had apparently begun to fail. The alvine discharges had not been preserved for inspection, as had been directed, and it was impossible to form an opinion whether they came from above the protruded gut or not. No diminution of tenderness or tenseness of the abdomen or of the tumour had followed their dejection, but on the whole he had failed more rapidly since they appeared. Pulse 100, and small; anxiety, distress, and tenderness, increased; preparations were now made for the operation. In an hour afterwards, pulse 110, and feeble, vomited green bilious matter; had had eructations for the preceding twenty-four hours, but no hiccup; abdomen resonant as a drum.

Drs. Palmer and Hodgson, of this village, kindly assisted me in the operation. From the history of the case, no unusual increase of the thickness of the sac could be expected. The hardness of the tumour, however, was remarkable: it yielded not in the slightest degree to pressure, and felt like a scirrhus testis; it was resonant on percussion. The patient, though anxious for the performance of the operation, was resolutely determined not to submit to it, unless allowed to inhale chloroform. From twenty to thirty minutes elapsed before he was insensible to the prick of a pin. An incision was made from over the internal ring to near the fundus of the tumour, through the integuments. After passing through what was considered to be the inter-columnar fascia, the loose straggling fibres of the cremaster muscle, and a layer of firm fascia, a thin membrane was exposed. This, when lifted up by the forceps, was snipped by the knife. About a drachm of clear serum escaped; the sac was divided on a director up to the external ring, and afterwards above it. The finger could be passed in every direction excepting beyond the sides of the tumour, which lay in the sac, or rather behind it, after the manner of the testis in the tunica vaginalis. After deliberate examination, it was concluded that this was a false sac, and that we had yet to deal with an old and very thick sac enveloping the gut. No impression could be made on the tumour by pressure, and on following up the neck, which was an inch long and about the size of the little finger, it was found of the same hardness quite up into the inguinal canal. Selecting a spot at the left side of the

tumour, where the external layer happened to be loose enough to pinch up, the dissection was continued. Layer after layer was divided until the knife caused a hollow sound, indicating that we were approaching the gut.

Before this time the patient was repeatedly in a state approaching collapse: and it had been necessary to pause often, to enable him to rally: at one time, indeed, he appeared *in articulo mortis*. No stricture could be felt at either ring, external to the sac. To undertake to lay open the neck was out of the question, from its great thickness and the density of its tissues. The dissection was therefore continued, and we were evidently approaching the bowel, but the hemorrhage now became embarrassing; the walls of the incision had almost the firmness of cartilage, and presented a deep channel, constantly filled with blood, at the bottom of which, through dense, compact layers of condensed cellular tissue, the dissection was to be carried on by candle light. The operation was continually interrupted by the sinking of the patient, accompanied by involuntary discharges of urine and feces, spasmodic twitchings of the muscles of the face, imperceptible respiration and frequent pulse, and the stomach rejecting everything that was poured into the mouth. His condition was so alarming as to cause apprehensions that he would die on the table, and, despairing of being able to distinguish the surface of the gut when it might be reached, a needle was passed into it for the purpose of relieving the distension. The point of the scalpel was afterwards introduced, and air, with a small quantity of dark offensive fluid, escaped. The wound was hastily closed, and the patient put upon the bed, to die, as was supposed, in a very little time.

Saw him four hours after the operation, and he expressed himself relieved. Bowels had moved; *tenderness of the abdomen much diminished*; put him on calomel gr. ij; morphine $\frac{1}{4}$ gr. every three hours.

Next day 12th, 9 A. M. *Tenderness of the abdomen gone*; discharge from the wound very little but very offensive, and probably fecal; was feeble. Ordered brandy, one teaspoonful every hour, quinine gr. i, with morphine every two hours. 8 P. M. Has had several dejections; pulse 120, feeble and small; frequent vomiting. Ordered to give pil. opii gr. iss, every two hours: omit calomel and increase the brandy; sinapisms to abdomen.

13th. Had profuse, constant, involuntary diarrhoea; pulse 120, and very small. Ordered brandy, ad libitum; laudanum and tannic starch injections. In the evening the discharge was checked.

14th. 9 A. M. Passed a comfortable night; had been shaved, looked bright, and spoke up distinctly; pulse 108, soft, small, but regular; wound looked disposed to suppurate. Ordered one grain of quinine every three hours. 10 P. M. Was bright until 4 P. M., then became faint, and was supposed to be dying; diarrhoea returned, but was kept in subjection by opiate enemata; vomiting continued, resisting a blister to the epigastrium, doses of morphine, pills of opium and ice. He now began to complain of all stimulants as burning his stomach. He became daily more and more feeble, the same symptoms continuing. *No pain or tenderness on pressure* was experienced after twenty or twenty-four hours following the operation, until his death, which took place July 17th, at 10 A. M., seven days after the operation.

Autopsy, 24 hours after death. Wound in a sloughy and exceedingly offensive state, and no attempt at union. On opening the peritoneal cavity, the peritoneum was found thickened, the intestines glued to each other and to the peritoneum all around the internal ring. These adhesions could be easily broken up, but they had prevented effusion of feces into the peritoneal cavity. There were several depots of pus between the convolutions of the intestines

and the walls of the abdomen, one of which contained a teacupful. Viewed from the abdomen, the mouth of the sac presented a puckered appearance, like that of the neck of a purse tight drawn. The neck of the sac still felt like a hard cord, of the size of the little finger, and the passage through it barely admitted a middle-sized silver probe. On laying it open, a considerable quantity of firm lymph was discovered, lining the neck and body of the sac, which had caused this partial obliteration of its calibre, and which could be readily stripped off. Its entire thickness was about a half inch.

The gut, a portion of the ileum, had entirely retreated from the sac, into the peritoneal cavity, and had formed adhesions about the mouth of the sac. The opening which had been made during the operation, was half an inch in length, and the edges had become rounded off, without any attempt at adhesion. In a nearly circular space around the incision, involving from one-half to two-thirds the circumference of the intestine, it was of a dark purple colour, and its mucous membrane a little softened. (?) This appeared to be the portion that had descended; so that the entire calibre of the bowel had not been involved in the hernial protrusion.

This case presents several points of considerable interest. The protrusion at the time of the accident was evidently incomplete, and the intestine came down so as to fill the sac only after several hours, during which there was frequent vomiting. After its apparent reduction on the second day, it descended again within six hours; partial relief to the symptoms followed, but it is now highly probable that the reduction was incomplete, a portion still remaining in the inguinal canal, though the frequent vomiting might have caused a re-protrusion, had it been entirely returned. It became a question whether strangulation had really existed, or whether the symptoms were due to inflammation of the peritoneum and neck of the hernial sac. There had been from the first great distress and tenderness on pressure quite generally in the abdomen. He had expressed himself somewhat relieved by the apparent reduction, but not more so than after the previous venesection of the preceding evening, and the vomiting and tenderness continued. I put him on a course calculated to combat peritonitis, and determined to wait a little before proceeding more actively. The operation was at length resorted to, after trial of all other means that promised any thing. There had been three pretty free alvine evacuations, but they had afforded no relief, on the contrary, he appeared to fail after the first. Their character was unknown, as they were not preserved as directed; one, passed just before the operation, certainly had the appearance of having come from the small intestines. The post-mortem examination showed that strangulation had actually existed, by the presence of the darkened spot above described, which, according to Mr. Teale, p. 62,* has been known to continue fifteen or twenty days after an operation.

Whether the stricture was owing in this case to diminished calibre of the neck of the sac from effusion of lymph on its internal surface, subsequent to the protrusion of the intestine, or whether it depended on the great distension

* Practical Treatise.

of the gut with air, I am not convinced. The tumour, it will be remembered, was pyriform in shape, with a long, narrow, undilatable neck, which, on post-mortem examination, was found lined with lymph, so that it would not allow the passage of more than a silver probe, and which, when freed from lymph, would not more than admit a small goose-quill; and this lymph, or a portion, might have been effused after the descent of the intestine, and caused strangulation. On the other hand, "a sudden irruption of a fresh portion of intestine, or the *generation of gas* in the portion already protruded, may induce complete strangulation," says Mr. Teale, p. 54. On the puncture of the intestine in the operation, air escaped, and the tumour became sensibly softened. Puncture of the intestine was our only resource, from the impossibility of pursuing the operation any farther, and the patient was thus afforded a chance for an artificial anus; moreover, in case the strangulation depended on distension, it afforded a hope of relief. In those embarrassing cases in which, after removal of the stricture, the contents of the bowels cannot be returned by reason of great distension, "the over-filled intestine has been punctured with a large needle (Lowe), with a lancet (Loëffler), and with the trochar (Richerand, Jonas, Von Graëfe); the latter was successful." (*Chelius, Syst. of Surg.*, vol. ii. p. 39.) This practice, in the class of cases described, as well as when great protrusion of the intestines through wounds in the parietes of the abdomen takes place, is one from which the best-informed surgeons now most generally dissent, but in our case delay was out of the question.

Nothing could be elicited from the patient which threw any light upon the origin of the false sac found in front of the true sac. M. Cloquet has explained the formation of similar protrusions of the peritoneum, of which the mode is described by Mr. Teale, p. 18, as follows: "When the entrance of the viscera into the sac is prevented, its neck has a remarkable tendency to contract, and, as it diminishes in size, it becomes more loosely attached to the hernial aperture. This contraction may proceed to such a degree as to produce actual closure of the mouth of the sac. A serous bag then remains closed like the tunica vaginalis from the general cavity of the peritoneum. By the side of this closed cyst, a fresh portion of peritoneum may afterwards be protruded through the same hernial aperture, so as to form a new sac in close contiguity with the old one." In our case the neck of the false sac ran up into the inguinal canal, but owing to the great haste in which the examination was necessarily conducted, no marks of obliteration of its mouth were looked for on the peritoneal surface. Its existence is the more remarkable, from the fact of his never having worn a truss. It must have been formed years before, since the true sac had evidently existed a long time.

The thickness of the sac must be regarded as extraordinary. Though not ascertained by direct measurement, it was but little if any, less than half an inch. Though we are told that the sac is sometimes found much thickened, Teale and Lawrence each refer only to the case of Arnaud, in which the sac was six lines in thickness, and Velpeau to the additional one of Graëfe, in

which the sac was of similar thickness. It appears, however, that the various parts of the sac sometimes "undergo fibrous, fibro-cartilaginous, cartilaginous, or osseous changes of structure, either from inflammation, or from changes in the nutrition in the part consequent on pressure," &c. This man repeatedly declared that the intestine did not ordinarily come down oftener than once in five or six weeks, and that it had never been down more than two or three days at a time. If this were true, the changes in the sac must have taken place independent of the presence of the intestine distending it.

Lastly, I am inclined to attribute the very unusual depression under which the patient suffered during a part of the operation, and which imposed the necessity of hastening it to a termination, to the influence of the chloroform which had been administered. From four to six drachms were made use of, while getting him under its influence, and during the time he was allowed to breathe it, after the operation commenced. The false sac was reached with facility, and having been opened, and the true state of things not being at once recognized, the inhalation of the chloroform was suspended. Almost immediately after the return of sensibility, the alarming prostration presented itself, and it continued alternating with intervals of reaction, during which alone any advance in the operation was made, the patient struggling violently, until the completion of the operation in the manner narrated. The patient's condition when placed upon the table, was considered by us all, as very fair; and the shock to the system from the operation, up to the time when the prostration first manifested itself, was entirely inadequate to the production of any such effects. It was with great difficulty that he had been brought under the influence of the chloroform—more than in any of the numerous instances in which I have witnessed its administration.

CASE III.—*Suppuration beneath the palmar fascia—hemorrhage from incision—subsequent ligature of the brachial artery.* Sept. 1847.—J. B. æt. 9 years, applied at the Brooklyn Dispensary. Some four days previous, on climbing a fence, a sharp iron nail entered the palm of his hand, and he hung by it until taken down by a passer by. Intense pain came on and had continued unabated. There were no positive indications that suppuration had taken place, and nothing but the duration of severe inflammation to lead to the presumption of its having occurred.

The boy was placed under the influence of ether, by causing him to inhale it from a phial by the nose, one nostril being closed by the finger, and the mouth shut. A free incision was cautiously made into the palm of the hand, in such a direction as to avoid the usual course of the superficial palmar arch. On dividing the palmar fascia, about a teaspoonful of pus escaped, and pretty free hemorrhage came on. This was readily controlled by a compress over the radial and ulnar artery, confined moderately tight with a roller. He was put in bed with the arm on a pillow and the wrist placed higher than the elbow, and a bread and milk poultice applied to the palm. The relief was immediate and very great; pain and swelling left the arm and hand, excepting the index finger, and the incision nearly healed by the first intention. Ten days after the incision was made, I was hastily summoned, and learned that, while dancing about the floor, he had accidentally struck a severe blow with his hand, and that he had

lost two or three ounces of blood. Compression of the brachial artery with compress and roller controlled the hemorrhage, but obstructed the venous circulation. Compresses were firmly applied over the radial and ulnar; ice was applied to the wound, but he would not tolerate direct compression upon it. In the morning there was a false aneurism, of the size of a bullet. A sixpence was enveloped in linen and applied directly over the sac, and over this a graduated compress retained by a bandage. Next morning, Oct. 1st, found he had passed a bad night, and he complained much of his hand. There was an offensive gangrenous smell, and on making moderate pressure and relaxing it, a large jet of arterial blood escaped. Compression in the palm gave him so much distress that he could not bear it. A compress was applied over the brachial artery, a thin strip of wood upon this, and a corresponding strip on the opposite side of the limb, and then a *presse artere* of a C shape embracing both. After repeated trials, it was found impossible to prevent the artery from slipping from under the pressure, any movement of the limb at once disturbing the instrument. The boy was of an exceedingly wayward disposition and could not be controlled but by main force. A cylindrical compress was then placed in the course of the radial artery, and another in the course of the ulnar, and across the two the thin strip of wood above spoken of, with its long diameter across the wrist. A corresponding one was placed on the back of the wrist, and the two bound together by the *presse artere*. This controlled the hemorrhage completely. In about a half hour the wrist became very painful, in an hour and a half the pain was insupportable. When pressure was a little relaxed by means of the screw, hemorrhage returned. He had now lost a good deal of blood.

Placing the boy in the lap of an assistant, I proceeded to put a ligature on the brachial artery. He begged permission to "snuff" the ether; the phial was handed him, and in less than a minute he was completely under its influence. He continued to inhale it, for four or five minutes, until the operation was completed. The first incision passing through the integuments and superficial fascia, some loose cellular tissue was divided by the scalpel, and the basilic vein came into view: this was drawn to the inside. On dividing the deep fascia, the median nerve was drawn to the inner side. The sheath being exposed, a strip of the artery came into view, which was, in a large measure, hidden from view by the distended venæ comites, lying parallel to it on either side. A bent-eyed probe was passed under the vessel, conveying a ligature which was tied.

There was perfect union by first intention, excepting at the point where the ligature hung out. The ligature came away on the twentieth day, and in seven days more he was completely cured.

The mode of inhalation practiced in this case is one which I described in the *New York Annalist*, soon after the introduction of etherization. It has for its recommendation, economy, and the most complete simplicity. Should it be desirable to bring the patient suddenly under the influence of chloroform or ether, it would probably be found in some cases that sufficient vapour would not be furnished in a given time. But this is not considered desirable by some who have had great experience. (See a Review of Dr. Channing's work in the January Number of this Journal.) Whenever there is no reason to anticipate any particular insusceptibility, I can confidently recommend its trial. A small phial should be half filled with ether or chloroform, and held to one nostril,

the other being closed by a finger, and the mouth shut. Several deep inspirations should then be taken, as in snuffing heartily from a smelling-bottle.

CASE IV.—*Case of Dislocation of the Metacarpal bone of the Thumb.*—M. B., a tailor, accidentally fell down stairs, and in attempting to save himself, the weight of his body came (as he thinks) upon the extended thumb of his right hand. Considerable pain and swelling ensued, and the mobility of the thumb, though not lost, was much restrained. He presented himself two days after the accident. There was a projection under the skin, which could be easily pushed into its place, but immediately returned. It gave at first the idea of a dislocation of the trapezium, and had actually been taken for it by an intelligent friend, but its true nature was sufficiently apparent. In the course of five or six days, as many different kinds of splints and bandages were resorted to, to no purpose. A very small amount of force applied directly to the head of the bone sufficed to keep it in its place, but when sought to be effected through the aid of bandages and splints, unless applied so tight that he could not bear them, the head slipped out, the capsular ligament being torn. I had a clamp made of a piece of steel, a half an inch wide and one eighth thick and six inches long, bent into the shape of the letter U, with a screw passing through one end, perpendicularly to the surface. A compress was placed over the head of the bone, and one on the palmar aspect of the articulation, and a very moderate pressure from the instrument kept the bone in its place, and effected a perfect cure.

ART. XI.—*On the Action of Poisons.* By JAMES BLAKE, M. D., F. R. C. S. E.,
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THE subject of the action of poisons, has attracted the attention of physiologists since this branch of science first began to be cultivated; and undoubtedly the remarkable effects which many of the more venomous substances produce on the living organism, are well calculated to excite the attention, both of the philosophical inquirer and of the lover of the marvellous. It is not, however, until within the last few years, that any well-devised experiments have been performed with this class of substances, so as to make them available in illustrating some of the phenomena of living beings. The researches of Fontana, Brodie, Orfila, Magendie, and Christison, have undoubtedly furnished us with many interesting facts on the action of poisons; and if, after all the labour that has been bestowed on it by these able experimenters, some of the more simple and fundamental problems connected with it have not yet received their solution, this dearth of useful results is not due so much to a want of care or accuracy, on the part of those who have instituted these researches, as to our ignorance respecting some of the fundamental problems of general physiology,—the solution of which would alone afford the necessary data for determining the most important questions relating to the action of poisons.

One of the fundamental points connected with this subject, and one